CASE HISTORY

Navy Barracks Renovation

Existing Navy barracks IF, KJ, and KK at Norfolk Naval Station in Norfolk, Virginia were scheduled for renovation, which required additional foundation capacity. Magnum-Geo Solutions served as Engineer of Record and selected a grouted helical pile solution. Advanced Builders, Inc. installed MAGNUMreg MH325BR grouted helical piles to support the renovated structures.



The Challenge

The renovation needed new foundation capacity in weak soils. Because of these conditions, the project team required a foundation system that could reliably provide axial compression, tension, and lateral resistance without relying on skin friction in the soft upper strata.

The Solution

Magnum-Geo Solutions designed a pressure grouted helical pile system using MAGNUMreg MH325BR grouted helical piles. Advanced Builders, Inc. installed 146 piles, including load test piles to verify performance, to the specified allowable capacities of 40 KIP compression, 30 KIP tension, and 2.5 KIP lateral. The pressure grouting improved pile performance in the weak soils while providing the required axial and lateral resistance for the renovated barracks.

Results

The installed MAGNUMreg MH325BR grouted helical piles met the project s allowable capacities, addressing the weak soil conditions and providing the additional foundation support required for the Navy barracks renovation at Norfolk Naval Station.



Highlights

Project Date: April 2013, Project: Navy Barracks Renovation (Buildings IF, KJ, and KK), Location: Norfolk Naval Station, Norfolk, VA, Engineer of Record: Magnum-Geo Solutions, Installer: Advanced Builders, Inc., MAGNUMreg Product: MH325BR Grouted Helical Piles, Piles Installed: 146, Allowable Capacities: 40 KIP compression; 30 KIP tension; 2.5 KIP lateral, Soil Conditions: Weak soils present at the site, Foundation Approach: Pressure-grouted helical piles; load testing performed

MAGNUM® Piering

MAGNUMreg grouted helical piles provided dependable axial compression, tension, and lateral resistance in weak soils, making them well suited for renovation work at the existing Navy barracks. By combining pressure grouting with the MH325BR pile, the system delivered the additional foundation capacity required for the project.

